CLAIMS

1. A biological hard tissue inductive scaffold material to be used with various implants comprising, titanium or titanium group alloy fiber, wherein said biological hard tissue inductive scaffold material is materially designed to excel in biological hard tissue inductivity and fixing ability, said titanium or titanium group alloy fiber is selecting a fiber whose average diameter is smaller than 100μm and aspect ratio is 20 or more, that is, short axis:long axis ratio=1:20 or more, and said fibers are accumulated to form a layer so as to form a growth space for biological hard tissue from the surface to inside.

2. The biological hard tissue inductive scaffold material of claim 1, wherein a layer shaped scaffold material comprising said fibers or various implants to be used with said scaffold material are sintered in vacuum so as crossing points or contacting points of the fibers each other or the fibers and the implant to be fused and fixed.

3. The biological hard tissue inductive scaffold material of claim 1 or claim 2, wherein a surface of said fibers is treated with apatite forming liquid and coated with calcium phosphate compound containing hydroxyapatite or carbonateapatite.

4. The biological hard tissue inductive scaffold material in accordance with anyone of claims 1 to 3, wherein the surface of said fibers is treated with treating liquid containing a physiological active material or a physiological activation promoter which activates cells.

5. The biological hard tissue inductive scaffold material of claim 4, wherein the physiological active material or a physiological activation promoter which activates cells is at least one selected from the group consisting of cell growth factor, cytokine, antibiotic, cell growth controlling factor, enzyme, protein, polysaccharides, phospholipids, lipoprotein or mucopolysaccharides.

6. The biological hard tissue inductive scaffold material in accordance with anyone of claims 1 to 5, wherein the implant is an artificial root of the tooth having an embedding part and the layer which is integrally fixed to a periphery surface of the embedding part.

7. The biological hard tissue inductive scaffold material in accordance

with anyone of claims 1 to 5, wherein the implant is an artificial joint having an embedding part and the layer which is integrally fixed to a periphery surface of the embedding part.

8. The biological hard tissue inductive scaffold material in accordance with anyone of claims 1 to 5, wherein the implant is an implant for bone repairing having an embedding part and the layer which is integrally fixed to a periphery surface of the embedding part.

9. The biological hard tissue inductive scaffold material in accordance with anyone of claims 6 to 8, wherein the integral formation of embedding part and the layer is carried out by sintering in vacuum.

10. A method for proliferation of the biological hard tissue inductive scaffold material comprising, forming a layer by entangling titanium or titanium group alloy fibers whose average diameter is smaller than 100μm and aspect ratio is 20 or more, winding up the layer to the artificial root of the tooth or an artificial joint, and sintering it in vacuum so as to fuse the crossing points or contacting points of the fibers each other or the fibers and the implant.

11. A cell culture proliferation reactor in regenerative medical engineering comprising, a reactor using titanium fibers whose average diameter is 100μm or less and aspect ratio is 20 or more, that is, short axis:long axis ratio=1:20 or more, further the titanium fibers are treated with apatite forming liquid and coated with calcium phosphate compound containing hydroxyapatite or carbonateapatite, characterized by providing cells of growing space, and said fibers are accumulated to form a layer so as to form an implantation space for biological hard tissue from the surface to inside and to materially design excelling in biological hard tissue inductivity and fixing ability.

12. The cell culture proliferation reactor in regenerative medical engineering of claim 11, wherein the layer of fibers is treated with solution containing a physiological active material or a physiological activation promoter which activates a biocell or containing said solution.

13. The cell culture proliferation reactor in regenerative medical engineering of claim 11, wherein the physiological active material or a physiological activation promoter which activates cells are at least one selected from the group consisting of cell growth factor, cytokine, antibiotic, cell growth controlling factor, enzyme, protein, polysaccharides,

phospholipids, lipoprotein or mucopolysaccharides.